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DETAILED ACTION

Response to Amendment

This is in response to an amendment/response filed on October 10th, 2008.

Claims 1, 6, 17 and 19 -21 have been amended.

Claim 17 has been cancelled.

No new claims added.

-Claims 1-14 and 16 -21 are currently pending.

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.

2.   Ascertaining the differences between the prior art and the claims at issue.

3.   Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness

or nonobviousness.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

3.   Claims 1 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Rajkotia (US Patent 7,411,961) in view of Kanterakis.

Regarding claims 1 and 19, Rajkotia discloses a method of determining when to

initiate a channel access **(fig. 1 and Fig. 2)** comprising:

determining if at least one of a plurality of transmit queues**(Fig. 2, 261-263)** is eligible

based on comparing the queue and status of the queue to channel access rules **(Col. 6,**

lines 39 -59, which recites determines the scheduling of the transmission of a

queue according to various criteria), wherein each transmit queue corresponds to a

receiver address of a received packet **(Col. 2, lines 55 -65, which recites the**

apparatus comprises a transmission scheduler for accessing a plurality of data

packets received from a plurality of user devices requesting to transmit data

packets to the mobile stations);

Rajkotia discloses one of the eligible criteria for transmitting a queue is the length of that queue which substantially includes a threshold value.

But Rajkotia does not explicitly teach initiating a channel access for at least one eligible transmit queues, if at least one of the following has occurred:

a timer associated with a-said eligible transmit queue has expired; and

a count associated with a-said eligible transmit queue has exceeded a threshold.

However, Kanterakis teaches initiating a channel access for at least one eligible transmit queues, if at least one of the following has occurred:

a timer associated with a-said eligible transmit queue has expired; and

a count associated with a-said eligible transmit queue has exceeded a threshold**(Abstract, Col. 6, lines 40 – Col. 6, lines 5 Kanterakis discloses a method to initiate transmission to the station in response of a timer expired or a counter value exceeds a threshold).**

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 4, Rajkotia discloses all the limitations of claim 4 as applied to claim 1, except *detecting a first packet stored into an empty queue; and starting a timer associated with the queue.* However, Kanterakis discloses: *detecting a first packet stored into an empty queue; and starting a timer associated with the queue* **(Col. 6,**

lines 43 – 44). The RNC buffers the first packet, which implies an empty buffer; and

resets two timers.

Therefore, It would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the counter in the threshold into the method

discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the

purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 5, Rajkotia discloses storing at least one packet in a queue

(Col. 7, lines 39 -45), Rajkotia does not explicitly discloses maintaining a count of the

amount of data in the queue. However, Kanterakis teaches maintaining a count of the

amount of data in the queue **(Col. 6, lines 43 – 52).** The RNC buffers each packet and

updates it buffer size denotes by the BCN counter value.

Therefore, It would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the counter in the threshold into the method

discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the

purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claims 2 and 3, Rajkotia discloses a plurality of queues **(Fig. 1, 261-**

263). Rajkotia does explicitly disclose a threshold associated with different queues.

However, Kanterakis teaches the threshold may be set for a *queue* (Col. 6, lines 40 –

52). The BNC counter value is associated with a buffer.

Therefore, It would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the counter in the threshold into the method

discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 6, Rajkotia discloses a method **(fig. 1 and Fig. 2)** of selecting a transmit queue from a group of eligible transmit queues **(Fig. 2, 261-263)**, each transmit queue corresponding to a receiver address of a received packet **(Col. 2, lines 55 -65, which recites the apparatus comprises a transmission scheduler for accessing a plurality of data packets received from a plurality of user devices requesting to transmit data packets to the mobile stations)**, for transmission:

determining if any of the eligible queues have a timer expired **(Col. 8, lines 5 -9, the length time period TQ is considered as the expiring time),** wherein a queue is eligible based on comparing the queue and status of the queue to channel access rules **(Col. 6, lines 39 -59, which recites determines the scheduling of the transmission of a queue according to various criteria),**

Rajkotia discloses one of the eligible criteria for transmitting a queue is the length of that queue which substantially includes a threshold value.

But Rajkotia does not explicitly disclose selecting one of the queues having an expired timer if there is an eligible queue having an expired timer; otherwise, determining if any of the eligible queues have a count that exceeds a threshold;

However, Kanterakis teaches disclose selecting one of the queues having an expired timer if there is an eligible queue having an expired timer; otherwise, determining if any of the eligible queues have a count that exceeds a

threshold **(Abstract, Col. 6, lines 40 – Col. 6, lines 5 Kanterakis discloses a method to initiate transmission to the station in response of a timer expired or a counter value exceeds a threshold).**

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 7, Rajkotia discloses selecting *a non-empty queue* **(Col. 7, lines 39 -45).**

Regarding claim 8, Rajkotia discloses the method comprising: *detecting a first packet stored in a queue; and starting a timer associated with the queue* **(Col. 7, lines 39 -45 and Col. 8, lines 3 -9).**

Regarding claim 9, Rajkotia discloses all the limitations of claim 9 as applied to claim 6, except *the method: storing at least one packet in a queue; and maintaining a count of the amount of data in the queue. However,* Kanterakis teaches *the method: storing at least one packet in a queue; and maintaining a count of the amount of data in the queue* **(Col. 6, lines 40 – 52).**

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 10, Rajkotia discloses all the limitations of claim 10 as applied to claim 6, except *the count represents an amount of at least one of packets and bytes*. *However,* Kanterakis teaches the *count represents an amount of at least one of packets and bytes* **(Abstract).** The BNC counter value represents the amount of buffered data.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 11, Rajkotia discloses all the limitations of claim 11as applied to claim 6, except *a method the selecting one of the queues having a count comprises selecting one of the queues having a greatest count. However,* Kanterakis Teaches *a method the selecting one of the queues having a count comprises selecting one of the queues having a greatest count* (Col. 7, lines 26 – 30). The BNC counter value exceeds the BCNX the MS sends all accumulated packets is considered as the queue having the greatest count.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim12, Rajkotia discloses all the limitations of claim 12 as applied to claim 6, except the *method of selecting one of the queues having an expired timer comprises selecting the eligible queue having a timer that expired the longest ago. However,* Kanterakis teaches *the method of selecting one of the queues having an expired timer comprises selecting the eligible queue having a timer that expired the longest ago* (Col. 6, lines 59 – 64). Where the base station transmits the oldest of the accumulated data.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 13, Rajkotia discloses all the limitations of claim 13 as applied to claim 6, except *the method for selecting one of the queues having an expired timer comprises selecting the eligible queue having an expired timer that has the oldest data in the queue. However,* Kanterakis teaches *the method for selecting one of the queues having an expired timer comprises selecting the eligible queue having an expired timer that has the oldest data in the queue* **(Col. 6, lines 59 –67).**

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 14, Rajkotia discloses a plurality of queues **(Fig. 2, 261-263).**
Rajkotia does not explicitly discloses *an expired timer that has the oldest data in the*
queue; having a timer that expired the longest ago; and a combination of an expired
timer that has the oldest data in the queue and that expired the longest ago.

However, Kanterakis teaches *the method of selecting one of the queues having*
an expired timer comprises selecting the eligible queue having at least one of:

an expired timer that has the oldest data in the queue; **(Col. 6, lines 59 –67).**

having a timer that expired the longest ago; **(Col. 6, lines 59 – 64).** Where the
base station transmits the oldest of the accumulated data.

and a combination of an expired timer that has the oldest data in the queue and
that expired the longest ago **(Col.6, lines 59 – col. 7, lines 5).**

Therefore, It would have been obvious to one of ordinary skill in the art at the
time the invention was made to implement the counter in the threshold into the method
discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the
purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Regarding claim 15, Rajkotia discloses *a queue may be eligible based on*
comparing the queue and status of the queue to channel access rules **(Col. 6, lines 39**
-59, which recites determines the scheduling of the transmission of a queue
according to various criteria).

Regarding Claim 16, Rajkotia discloses *queue eligibility is defined based on queues assigned to packets of a specified priority (Fig. 2, 261- 263).*

Regarding claim 17, Rajkotia discloses a method **(fig. 1 and Fig. 2)** comprising: determining when to initiate a channel access comprising:

selecting a transmit queue from a group of eligible transmit queues **(Fig. 2, 261-263)**, for transmission, each transmit queue corresponding to a receiver address of a received packet **(Col. 2, lines 55 -65, which recites the apparatus comprises a transmission scheduler for accessing a plurality of data packets received from a plurality of user devices requesting to transmit data packets to the mobile stations)**, wherein a queue is eligible based on comparing the queue and status of the queue to channel access rules **(Col. 6, lines 39 -59, which recites determines the scheduling of the transmission of a queue according to various criteria),**

Rajkotia discloses to initiate a channel if a timer is expired **(Col. 8, lines 5 -9, the length time period TQ is considered as the expiring time),**

But Rajkotia does not explicitly disclose initiating a channel access if at least one of the following has occurred: a timer associated with a transmit queue has expired; and a count associated with a transmit queue has exceeded a threshold;

However, Kanterakis teaches initiating a channel access if at least one of the following has occurred: a timer associated with a transmit queue has expired; and a count associated with a transmit queue has exceeded a threshold **(Abstract, Col. 6,**

lines 40 – Col. 6, lines 5 Kanterakis discloses a method to initiate transmission to the station in response of a timer expired or a counter value exceeds a threshold).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the counter in the threshold into the method discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the purpose of increasing the throughput of the system (Col. 2, lines 43 -49).

Regarding claim 18, Rajkotia discloses *a method of selecting a transmit queue from a group of eligible transmit queues for transmission*(Fig. 2, Col. 6, lines 39 -59, which recites determines the scheduling of the transmission of a queue according to various criteria).

Rajkotia does not explicitly discloses *determining if any of the eligible queues have a timer expired; selecting one of the queues having an expired timer if there is an eligible queue having an expired timer; otherwise, determining if any of the eligible queues have a count that exceeds a threshold; and selecting one of the queues having a count that exceeds the threshold if there is an eligible queue having a count that exceeds the threshold.* Kanterakis discloses a method for selecting a packet eligible for transmission from a queue.

However,   Kanterakis discloses: *determining if any of the eligible queues have a timer expired; selecting one of the queues having an expired timer if there is an eligible queue having an expired timer; otherwise, determining if any of the eligible queues have a count that exceeds a threshold; and selecting one of the queues having a count that*

exceeds the threshold if there is an eligible queue having a count that exceeds the

threshold. Kanterakis discloses a method for selecting a packet eligible for transmission

from a queue. The selection is based on certain events like timer expiration and counter

exceed their threshold value as described by this instant application **(Col. 6, lines 40 –**

Col 7, lines 5).

      Therefore, It would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the counter in the threshold into the method

discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the

purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

      Regarding claims 20 and 21, Rajkotia disclose an apparatus **(Fig. 1 and Fig. 2)**

comprising:

      a transceiver; **(Fig. 1, 102 etc.).**

      at least one transmit queue **(fig. 1, 261,262,263),** a timer associated with each of

said transmit queue **(Col. 8, lines 5 -9, the length time period TQ is considered as**

the expiring time), selecting a transmit queue from a group of eligible transmit queues

(Fig. 2, 261-263), for transmission, each transmit queue corresponding to a receiver

address of a received packet **(Col. 2, lines 55 -65, which recites the apparatus**

comprises a transmission scheduler for accessing a plurality of data packets

received from a plurality of user devices requesting to transmit data packets to

the mobile stations), wherein a queue is eligible based on comparing the queue and

status of the queue to channel access rules **(Col. 6, lines 39 -59, which recites**

determines the scheduling of the transmission of a queue according to various

criteria),

But Rajkotia does not explicitly disclose initiating a channel access if at least one

of the following has occurred: a timer associated with a transmit queue has expired; and

a count associated with a transmit queue has exceeded a threshold;

However, Kanterakis teaches initiating a channel access if at least one of the

following has occurred: a timer associated with a transmit queue has expired; and a

count associated with a transmit queue has exceeded a threshold **(Abstract, Col. 6,**

lines 40 – Col. 6, lines 5 Kanterakis discloses a method to initiate transmission to

the station in response of a timer expired or a counter value exceeds a threshold).

Therefore, It would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the counter in the threshold into the method

discloses by Rajkotia as suggest by Kanterakis for transmitting different queues for the

purpose of increasing the throughput of the system **(Col. 2, lines 43 -49).**

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DADY CHERY whose telephone number is (571)270-

1207. The examiner can normally be reached on Monday - Thursday 8 am - 4 pm ESt.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Q. Ngo can be reached on 571-272-3139. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dady Chery/   /Ricky Ngo/
Examiner, Art Unit 2416   Supervisory Patent Examiner, Art

Unit 2616